

Report to Governor Blunt

**From the
Interdepartmental Coordination Council
for Water Quality**



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Submitted by

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Origin

Executive Order 06-41 created the Interdepartmental Coordination Council for Water Quality, chaired by the Director of the Missouri Department of Natural Resources and composed of Director designees from the Departments of Agriculture, Conservation, Economic Development, Health and Senior Services, Natural Resources, Public Safety, and Transportation. This Council was created in response to the Missouri State Government Review Commission's recognition that an opportunity existed to better coordinate the state's water protection and water resources.

Charge

The Interdepartmental Coordination Council for Water Quality was charged with the duty of better coordinating the state's efforts in the following areas:

- Water resource protection, monitoring and improvement;
- Clean water, drinking water safety, and homeland security of Missouri's drinking water supply;
- Wastewater and runoff;
- Well construction and design;
- Flood and drought management;
- Interstate river issues;
- Dam safety; and
- Overall state water planning.

Executive Order 06-41 called upon the Council to develop specific, quantifiable objective performance standards to achieve the charge and provide a report to the Governor no later than December 31, 2006. The Council shall expire on June 30, 2007.

Process

The Council met on November 3, November 17, and December 15. In addition to meeting discussions, homework assignments were produced that included a list of each agency's water related activities, a table of water resource related interagency coordination that is currently occurring, and a list and ranking of gaps in coordination efforts in preparation for reporting. These interim, working products are available upon request.

At the first Council meeting, there was agreement to acknowledge and clarify the charge to address both water quality and water quantity. Just as groundwater and surface water are inextricably linked, so too are water quantity and water quality.

This document is a living document and may be used as a baseline to measure future improvements. The effort to protect, enhance and improve Missouri water resources is dynamic and ongoing.

Goal

Make the State Water Plan the strategic document for water quality decision-making based upon the best available science and on the sixty-six natural watersheds in Missouri.

The 1989 Missouri Water Resources Law (RSMo 640.400 to 640.435) requires the Department of Natural Resources to develop, maintain and periodically update a state water plan for a long-range, comprehensive statewide program for the use of surface water and groundwater resources of the state, including existing and future need for drinking water supplies, agriculture, industry, recreation, environmental protection and related needs.

The State Water Plan Interagency Task Force was established by state statute (640.430 RSMo) to advise the Department of Natural Resources on a wide variety of water quantity and quality related issues. The Task Force is to meet at least semiannually. The statute specifically identifies the state departments of Agriculture, Conservation, Health and Senior Services, and the University of Missouri College of Agriculture as permanent members. The Department of Natural Resources expanded membership to include the state departments of Economic Development, Public Safety, and Transportation.

State Water Plan products to date have been inventories and assessments (see Attachment C for a summary of state water planning efforts). Future products should assist decision-makers, based upon a watershed approach and a balance of interests that includes environmental, economic and societal needs.

Objective 1: Reactivate Missouri's Water Resources Interagency Task Force by February 1, 2007

Strategy 1.1 – Ensure the Water Resources Interagency Task Force is comprised of director level staff empowered to make statewide policy decisions regarding the water resources of the state. The Interdepartmental Coordination Council on Water Quality identified the most pressing needs as:

- A comprehensive report of a) existing legislative authority to protect water quality and quantity and b) conflicting laws and regulations, if any, and c) gaps or inadequacies in law or regulation for the protection of surface and groundwater quality and quantity.
- An assessment of present and future surface and groundwater demands.
- An assessment of the water quality of Missouri's 66 watersheds with prioritization of watersheds for protection and improvement by December 31, 2008.
- Identify sensitive watersheds and unique water resources within the state requiring special designations and protection.
- Assessment of progress on recommendations in "The Response, Recovery and Lessons Learned from the Missouri Floods of 1993 and 1995" (Attachment A) and "Stemming the Tide of Flood Losses – Stories of Success from the History of Missouri's Flood Mitigation Program" (Attachment B). These documents were written following Missouri's last major floods and offer experiences and recommendations on how to deal with flood management.

Strategy 1.2 – Provide overall policy direction to the state water planning efforts, with subgroups and support provided by technical staff from the member agencies and other partners.

Strategy 1.3 – Prepare an annual state water planning report detailing progress and recommendations regarding the protection, use, demand, and conservation of Missouri's water resources.

Performance standards:

- Missouri's Water Resources Interagency Task Force is activated with regularly scheduled meetings and priorities for work determined
- A state water planning report delivered to the general assembly and the governor annually
- Reports completed addressing the identified needs containing actions, responsibilities and timelines or due dates

Objective 2: Protect and improve the quality and quantity of Missouri's water resources.

Strategy 2.1 - Coordinate assessment of wastewater infrastructure needs for small communities and subdivisions to reduce risks to health and the environment. Prioritize needs and increase the number of communities receiving financial assistance through grants and low-interests loans to address drinking water and wastewater infrastructure needs.

Strategy 2.2 - Increase collaboration efforts with municipalities, other agencies and citizen groups to control the impact of stormwater runoff in urban and rural communities and for agricultural lands, specifically to meet the new federal stormwater requirements by 2008. Inform, educate and encourage the use of "state of the art" stormwater management in new development and to modernize existing storm water management and sewage treatment systems.

Strategy 2.3 - Continue efforts to protect aquifers through certification of well drillers, proper well construction and closures.

Strategy 2.4 - Investigate the need and means to complete capital improvements on Missouri and Mississippi River transportation facilities. These facilities have not been able to keep pace with demand or allow Missouri to take advantage of two transportation assets – a central U.S. location and over 1,000 miles of navigable waterways.

Strategy 2.5 - Provide additional resources for the many activities crossing departments' responsibilities. Two primary areas of need are: viable statewide testing for all drinking water supplies and addressing emergency and security needs for public drinking water systems.

Performance standards:

- Number of communities utilizing the infrastructure grant and loan programs
- Watersheds prioritized based on need for improvement and protection
- Stream and lakes within high priority watersheds are safe and usable for designated beneficial uses
- Numbers of acres with applied best management practices for stormwater management to improve water quality.
- Number and value of tonnage moved on inland waterway system

Objective 3: Increase the protection of Missourians.

Strategy 3.1 - Revise Missouri's Dam and Reservoir Safety Law to better protect the citizens from the loss of life and property due to dam failures by September 1, 2007. Revisions should include regulating dams which are also regulated by the Federal Energy Regulatory Commission and the U.S. Army Corps of Engineers.

Strategy 3.2 - Continue coordinated emergency response efforts and planning including the successful collaboration on drought mitigation through the Governor's Drought Assessment Committee and the Missouri Climate and Weather Sub-Committee. Develop and adopt strategies that address actions for a Drought Emergency (Phase 4 Drought Level) by December 31, 2008.

Strategy 3.3 - Provide statewide leadership in the establishment of floodplain development regulations. The experiences from other states can be drawn upon to craft a Missouri program. Please be aware, the U.S. Army Corps of Engineers and the Federal Emergency Management Agency will be remapping flood areas and levees that may impact levee certifications. This will require federal, state, local and interstate coordination in the near future and an opportunity to provide statewide leadership.

Strategy 3.4 - Examine interdepartmental coordination for financial and technical assistance that will aid communities suffering from lack of water by December 31, 2008. The University of Missouri Extension should be involved in this discussion as well.

Performance standards:

- Number of officials trained in the use of a revised Drought Plan
- A revised Missouri Dam and Reservoir Safety Law enacted
- Progress measured regarding recommendations from lessons learned from past flood events

Objective 4: Increase the state's capability to assess water resources.

Strategy 4.1 – Improve monitoring devices and assessment tools to better assess risks from neighboring states to Missouri's water resources.

Performance standards:

- Number of groundwater monitoring wells reporting accurate and real-time groundwater data
- Number of stream gage stations reporting accurate and real-time stream flow data
- A statistically reliable number of major water users report water use annually
- Accurate risk assessments of interstate water flows

Attachment A: The Response, Recovery and Lessons Learned from the Missouri Floods of 1993 and 1995

Attachment B: Stemming the Tide of Flood Losses – Stories of Success from the History of Missouri's Flood Mitigation Program

Attachment C: Missouri State Water Planning Efforts

Attachment C

Missouri State Water Planning Efforts Department of Natural Resources Water Resources Center December 21, 2006

Background

Missouri water planning efforts, as in other states, were initially spawned by drought conditions. Missouri's first state water plan was published in 1938 during the extended drought and "dust bowl" period of the 1930's. More recently, state water planning efforts were the direct result of the authorization and funding of the Missouri Water Resources Law, codified in RSMo 640.400 to 640.435. The Water Resources Law requires the Department of Natural Resources to develop, maintain and periodically update a state water plan for a long-range, comprehensive statewide program for the use of surface water and groundwater resources of the state. The State Water Resources Plan must include an examination of water use, including the current and future need for drinking water supplies, agriculture, industry, recreation, environmental protection and related needs. The Missouri Water Resources Law and State Water Resources Plan mandates were passed by the Missouri legislature and signed into law in 1989.

Initial state water planning efforts (after passage of the Missouri Water Resources Law) included an examination of over 50 water issues. Results from recommendations included modification of state laws, policies, and/or additional studies focused on septic systems, abandoned wells, water supply regionalization, public involvement during water issues planning, Missouri River issues, well head protection, wetlands, and pesticide monitoring in groundwater. Policy analysis reports and/or public meetings were held on the Missouri River operation/allocation issues, flood damage prevention, wetlands conservation, water supply regionalization, drought response and mitigation planning.

In the late 1990's a phased approach was implemented to develop the state water plan. Phase I consisted of a descriptive inventory of water resources using existing data. Seven Phase I reports were published that included water resource topics such as surface water, groundwater, water quality, water use, hydrologic extremes (floods and drought), interstate rivers and a summary of water laws. Phase II of the state water plan focused on a regional approach to identifying a broad range of water quantity and quality problems and opportunities. Five Phase II reports were published that covered the entire state. Frequently occurring, statewide concerns identified during Phase II included: drinking water supply infrastructure, localized overuse of groundwater, land application of animal manure, urban/suburban storm water runoff, loss of aquatic species and stream buffer corridors. Phase III was initiated to work toward solutions for regional problems identified during Phase II investigations, but activities were curtailed due to budget and staff reductions and Phase III was never completed.

Current efforts

While funding for state water planning has been curtailed, the Department continues to lead and provide support in statewide drought assessment, regional water planning efforts, maintenance of a major water users database, water resources studies and monitoring of surface and groundwater resources. A summary of each activity is provided in the following sections.

Drought assessment

Periodic drought during the last 6 years has required activation of both the Drought Assessment Committee (DAC) and the Climate and Weather Sub-Committee. Concerns over low river flows, low public water supply reservoirs, and lack of livestock water and hay are projected to remain as problems

going into 2007. With input from technical committees, the DAC has categorized drought into response Phases. Phase 1 is an Advisory Phase, Phase 2 is a Drought Alert, Phase 3 is the Conservation Phase, and Phase 4 is a Drought Emergency. The Governor first activated the DAC in 2000. Since that time, many counties have been in a Phase 3 Drought. Although conditions have been close to invoking a Drought Emergency (Phase 4), it has not occurred thus far.

Water supply planning

The Department remains involved in regional water planning. Projections show that within 10 years southwest Missouri will experience critical water supply shortages. The Tri-State Water Resources Coalition was formed to address concerns such as high growth rate, localized overuse of groundwater, and the potential for future overuse of surface water. The Coalition presented recommendations in September 2006 for addressing the water resource needs to the citizens, businesses and governments of southwestern Missouri, southeastern Kansas and northeastern Oklahoma. Recommendations included pumping water from Table Rock Lake in Missouri, constructing a new reservoir in Missouri or pumping water from the Grand Lake of the Cherokees in Oklahoma. Estimated costs ranged from \$1.5 billion to \$2.2 billion. The Department has been able to provide limited technical assistance to the Coalition. Most of the planning effort to date has been conducted by the U.S. Army Corps of Engineers, Little Rock District.

The Department is assisting with regional planning efforts in northwest Missouri. The region has for the most part suffered due to lack of water resource development capability, a lack of developed water sources, aging treatment plants and distribution systems, and a lack of funding. Currently, fifty percent of the local water systems obtain their water from local area vendors. There appears to be a need to further this consolidation with treated water being supplied through wholesale vendors, most likely from the Missouri River alluvial aquifer, transported eastward along highway corridors.

Water resources studies

The Department's Water Resources Center has entered into an agreement with the U.S. Army Corps of Engineers (Little Rock District) to examine water use trends in Stone and Taney counties, particularly in areas where all types of development is placing ever-increasing demands on groundwater resources. This information will be used to delineate areas where groundwater use significantly exceeds the safe yield of the aquifer, and where groundwater depletion is expected to become problematic. In addition, information gathered during this study will be incorporated into a region-wide (southwest Missouri) potentiometric surface map currently under construction by the U.S. Geological Survey.

Water use reporting

The Department's Water Resources Center collects data from major water users. A major water user is any entity with the capability to pump 100,000 gallons of water per day from any water source. There are over 2,260 registered Major Water Users in Missouri; of which, 1,367 are irrigators, 510 municipal users, 135 are industrial users, 36 electrical users and the rest are domestic, recreational and other categories. The Major Water User Law (RSMo 256.400-256.430) was established in 1983. Under this law, Major Water Users are required to report the amount of water they pump annually. While reporting has increased in recent years, the percent of registered Major Water Users that have reported has been poor, averaging 59 percent. Accurate accounting of water use is a necessary, fundamental element in water resources planning.

Water resources monitoring

One of the department's long-term objectives is to expand its knowledge base of information regarding water supply, water use, and assessment of future needs. As part of the state's budget for Fiscal Year 2007, Governor Blunt approved \$1.6 million to enhance water resource assessment and monitoring statewide. The funding is designated for the addition, operation, and maintenance of 20 stream gages and

80 groundwater level gages. Existing stream gages provide data to address both water quantity and quality issues, and to defend the state's use of water in the Missouri River. The new stream gages will provide regional stream flow data important for assessing drought conditions and determining minimum flow conditions. Gages will be installed at sixteen stream and four reservoir locations during Fiscal Year 2007.

The Department of Natural Resources has been monitoring groundwater levels throughout Missouri since the mid-1950's. The groundwater-level monitoring network is operated and maintained by the department's Water Resources Center and currently consists of 77 wells located in 58 of the 114 counties in Missouri. Real-time data collected by the network is served to the public on-line and provides local, regional and state officials the necessary information for short-term and long-term decision-making regarding water supply issues. The Department will add 80 additional wells during FY 2007 – FY 2008 to better assess groundwater level conditions. Several wells will be placed near major water users to document the potential cause and effect relationship between water use and regional declines in groundwater levels. Once the expansion is completed, groundwater level data will be available for every county in Missouri.

An ongoing groundwater study, partially funded by the state of Kansas provides one example of why an accurate assessment of water resources and water use is important for Missouri. The objective of the study is to assess flow direction and use within the Ozark and Springfield aquifers. Ultimately, Kansas is concerned about the potential unlimited use of groundwater under Missouri's riparian water law. In 1998, Kansas sued the State of Nebraska for overuse of the groundwater. As part of the settlement that was signed in 2002, the State of Nebraska instituted a moratorium on new groundwater wells upstream of Guide Rock, Nebraska. There is currently a moratorium on drilling new wells in the Ozark aquifer in southeastern Kansas.

Future need for planning

Missouri is blessed with abundant water resources such as large rivers, streams, lakes, and high-quality aquifers. However, the quantity of water may not always be adequate to meet demands, or may be distributed unevenly geographically. Sometimes the lack of water is driven by drought. Other times it arises from conflict between competing water uses. A complete and periodically updated State Water Plan provides a valuable tool for addressing critical water resources needs. Accounting for current and future water needs must be accomplished through an accurate assessment of existing water resources (supply) and current and projected usage (demand). Future products should assist decision-makers, based upon a watershed approach and a balance of interests that includes environmental, economic, and societal needs.